

DOCUMENT-IDENTIFIER: US 3589260 A
TITLE: ADJUSTABLE CAMERA MOUNT

DID:
US 3589260 A

BSPR:

The mount preferably includes a base for slidably mounting the carrier structure. The base has a raised section of dovetail configuration with upwardly flaring sidewalls and the carrier structure is formed with an interlocking groove of complementary dovetail configuration. The carrier structure can be easily slid along the base in order to achieve the necessary balancing so that the cameraman's effort in sighting and focusing the object is greatly facilitated.

BSPR:

The slide member of the lens assembly stabilizer and guide slot of the carrier structure guide plate are also characterized by complementary dovetail configurations to permit relative sliding.

DEPR:

Referring now to FIG. 2 which illustrates important interrelationships between the various components of this invention, base 29 has a foundation plate 34 formed with a series of attachments openings 35 for retaining bolts (not shown) in order to couple the tripod with mount 10. A pair of risers or stanchions 36 extend between forward and rearward sections of plate 34 and an overlying bearing plate 37. Bearing plate 37 is integrally formed with a pedestal or raised section 38 characterized by a dovetail configuration whose opposing sidewalls flare upwardly. The bases of the flaring dovetail sidewalls are joined to parallel bearing surfaces 39 and 40.

DEPR:

Carrier 30 includes a longitudinally extending shallow section that defines an interlocking groove 45. Interlocking groove 45 is characterized by a dovetail configuration of complementary shape relative to that of riser 38. When base 29 is secured to the tripod then carrier 30 is permitted to slide on raised section 38 and bearing surfaces 39 and 40 as indicated by directional arrow 47. Secured within appropriate openings in stand 31 are a snap lock 48 that fits into slide channel 41 and a screw lock 49 that fits into slide channel 42. Snap lock 48 is biased against the bottom of channel 41 while screw lock 49 must be tightened in order to bear against the bottom of slide channel 42. By arranging snap lock 48 and screw lock in laterally offset relationship the tendency of stand 31 to teeter or jiggle when screw lock 49 is fully tightened is eliminated. If locks 48 and 49 were both aligned within a single slide channel then some slight instability might result. The locks 48 and 49 could be interchanged without hindering their joint effect in suppressing instability problems.

DEPR:

Guide plate 32 is formed along its longitudinal centerline with a guide slot 58 characterized by a dovetail configuration with inwardly converging sidewalls. The lens assembly stabilizer 33 includes a slide member 59 having a dovetail configuration of complementary shape relative to guide slot 58. Slide member 59 is formed with an elongated slot 60 that retains a clamping key 61. Clamping key 61 has an enlarged body 62 whose edges overlap and bear against the top surface margins of slide member 59. In order to slide the slide member 59 in guide slot 58 the clamping key 61 is torqued to loosen the wedging action between slide member 59 and guide plate 32. As an additional safety feature

slide member is coupled to a safety catch (not shown) formed by the base of guide plate 32 so that even when slide member 59 is loosened the member 59 will be prevented from sliding out of slot 58. Otherwise if the cameraman were inadvertent and forgot to tighten clamping key 61 the entire expensive zoom lens assembly and stabilizer 33 could tumble to the ground in which case it could become seriously damaged and/or injure a person.

DEPR:

A vertical alignment arrangement embodied in the lens assembly stabilizer 33 includes a vertically aligned slideway 87 formed by rearward vertical wall 76 and a vertically aligned slide bar 88 formed by intermediate wall 74. Slideway 87 and slide bar 88 are of complementary dovetail configuration to assure that all vertical motion by slide bar 88 relative to slideway 87 will be restricted to a vertical direction. The manner in which vertical adjustment is accomplished will be described in conjunction with FIG. 4.

CLPV:

the base has a raised section of dovetail configuration with upwardly flaring sidewalls, the raised section being formed with a parallel and laterally spaced slide channels;

CLPV:

the carrier structure bottom is formed with an interlocking groove of dovetail configuration, the interlocking groove and raised section dovetail configurations being of complementary shape to permit relative sliding;

CLPV:

the slide member and guide slot are of complementary dovetail configuration.

CLPV:

adjacent portions of the second and third walls are formed with a slideway and slide bar of complementary dovetail configuration; and,

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DOCUMENT-IDENTIFIER: US 4591252 A
TITLE: Photographic ground-glass plate camera

DID:
US 4591252 A

DEPR:
The camera base is assembled of three sectional parts 1, 2 and 3 which are engaged with one another along dovetail guides and are displaceable relative to each other. Arresting of the sectional plate in any relative position is possible by means of clamping mechanisms (not shown).

DEPR:
On the top of sectional parts 1 and 3, at the same level, a dovetail guide rail 1a; 3a respectively is formed. These rails engage a respective slide 4 and 5 which may be displaced by means of a rack and pinion drive. Neither the drive nor clamping elements which may be provided are shown.

CLPR:
3. A camera according to claim 2, wherein each of said guide rails comprises a dovetail guide rail, each of said slides having a dovetail groove for receiving one of said dovetail guide rails.

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DOCUMENT-IDENTIFIER: US 5289215 A

TITLE: Variable-position lens-mounting accessory for
motion-picture cameras,
and method of use

DID:

US 5289215 A

DRPR:

FIG. 4 is a bottom perspective view of the
support-and-coarse-focus first stage
of the same embodiment, together with a lower dovetail
attachment--part of the
fine-focus stage;

DRPR:

FIG. 6 is a bottom perspective view of the fine-focus stage, with
the same
lower dovetail attachment drawn displaced out of its operating
track, and also
showing the focus-scale wheel, witness arm, and shift-stage lower
member
(namely an upper dovetail track);

DRPR:

FIG. 8 is a like view of the fine-focus and shift stages,
including the
shift-stage upper member (a dovetail attachment, which also forms
the lower
member of the swing stage)--drawn displaced out of its operating
track;

DEPR:

As FIGS. 1 and 2 show generally, the preferred embodiment of our
accessory
includes, mounted to the iris rods 3, a first transverse block
20. Fixed to
the top of this block 20 is another component, which has the form
of a dovetail
30.

DEPR:

The first transverse block 20 and the dovetail 30 actually
function together as
parts of a first intermediary element or stage 20/30. This first
stage 20/30
in turn supports and guides the next element or stage--a

fine-focus block 40
which rides fore-and-aft along the dovetail 30.

DEPR:

The fine-focus block 40 itself holds a lateral-shift dovetail 50, which in turn supports for swinging rotation (about a vertical pivot screw 61) a very generally vertical frame 60-70-80. The vertical components 70 of this swing frame include a pair of vertical rods 71, and sliding vertically along those rods the additional rise-and-fall elements or stage 72-73-74 at the right side of the camera (left side of FIG. 1) and 73-74' at the left.

DEPR:

Passed from below through a transverse slot 26 (FIG. 4) in the central bridge part 23 of the first stage 20 is a mounting screw, with knurled head, 25. This screw 25 engages a threaded blind hole 33 in the underside of the previously mentioned dovetail 30, cinching the dovetail 30 to the top of the bridge 23. A transverse slot 26 is preferred to a simple clearance hole for the screw 25, in the interest of providing a coarse lateral-shift preadjustment.

DEPR:

As will be seen, movement of the next stage along the dovetail 30 provides fine focus of the lens relative to the lens-mounting port 6 (and thus relative to the film plane, not shown, within the camera). Hence we shall sometimes refer to the dovetail 30 as a "fine-focus dovetail".

DEPR:

A geared rack 31 is screw-fastened into a slot in the flat top surface of the fine-focus dovetail 30. The dovetail 30 has, by definition, beveled longitudinal sides 32--which as shown are preferably wider at the top.

DEPR:

Illustrated in FIGS. 6 through 10, as well as FIGS. 1 through 3, is the interfitting of the fine-focus dovetail 30 with the fine-focus

block 40. The dovetail slides fore-and-aft in a complementarily shaped track in the block, and is manually controlled by engagement of the rack 31 embedded in the dovetail with a pinion 46.

DEPR:

Cut into the underside of the fine-focus block, parallel to the fine-focus

dovetail track 49, is a fore-and-aft relief slot 49' providing some resiliency

of the right-hand edge of the dovetail track 49. This geometry amounts to an

integral-spring arrangement, allowing a nominal slight interference fit between

the edges 32 of the dovetail 30 and the walls of the track 49.

If desired a

precise desired degree of friction can be established and held by a set-screw

(not shown) passed through a threaded hole in the right end of the fine-focus

block 40 to bear against the left side of the relief slot 49'.

DEPR:

Sliding transversely in a transverse dovetail track 48 (FIGS. 6ff.) is the

lateral-shift dovetail 50, whose beveled side walls 55 (FIG. 8) are larger at

the bottom. A geared rack 51 is screw-fastened into the flat underside of the

lateral-shift dovetail 50, and engages a pinion 47 (FIG. 3) that is held in a

cavity within the fine-focus block 40.

DEPR:

This lateral-shift pinion 47 is keyed or press-fitted to a shaft 47', which

passes through a front wall of the fine-focus block and terminates in a knob

41. The knob is manually operated to rack the lateral-shift dovetail 50 to

left or right as desired.

DEPR:

Alternatively if desired the threaded hole 42' can be used instead for a

set-screw, to simply set and hold a precise desired degree of friction in the

fit between the shift dovetail 50 and its track 48, as for the

focus mechanism.

DEPR:

Three holes are threaded into the top of the shift dovetail 50, and used in control of the lateral rotation or swing motion of the frame 60-70-80 relative to the shift dovetail 50. The functions of these three holes appear more clearly in FIGS. 11 and 12, as well as FIG. 1.

DEPR:

Another hole 52, at the right side of the shift dovetail (left in FIG. 11), receives a threaded shaft 66' which carries a manually operated lever 63 and vertical pinion 66: rotating the lever 63 rotates the pinion 66. The pinion 66 engages a short rack 68 that is mounted in an orifice 68' in the yoke 60; consequently manual operation of the lever 63 and attached gear 66 forces the yoke 60 to rotate about the pivot screw 61.

DEPR:

The third hole 54, at the left side of the shift dove-tail (right side of FIG. 11) receives another threaded shaft 67, this one too carrying a lever 62. This shaft passes through an arcuate slot 69 in the yoke 60, and is used simply to cinch the yoke 60 against the shift dovetail 50, locking the two together against relative rotation.

DEPR:

In other words, the lever 62, cooperating with the threaded hole 54 and arcuate slot 69, serves as a swing-motion lock. Spacer washers 56 and 67" are interposed between the yoke 60 and shift dovetail 50, and between the locking-lever handle 62 and yoke 60, respectively--to permit smooth rotation between those two pairs of elements.

DEPR:

We cut a gear rack 76' (FIGS. 13 and 14) into the forward side of the right-hand vertical slide rod 71--generally in the manner of the

racks 31, 51
mounted in the two dovetails 30, 50 discussed earlier. We also
mount a mating
pinion (not shown) in a cavity within the same upper right lobe
74.

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